

NDEP Abandoned Mine Lands (AML) Program PA/SI Grant 2016 Accomplishments & Progress and 2017 Goals and Objectives for discussion during the AML and PA/SI Grants meetings with EPA

January 18, 2016

The NDEP Bureau of Corrective Actions, Abandoned Mine Lands (AML) Program is pleased to continue to make substantive progress on identifying, assessing, re-assessing and cleaning up AML sites in Nevada, with the help of EPA Region 9, and support from the Superfund Consolidated Cooperative Agreement (SCCA) Grant, the 128a State Response Grant (128a), and the PA/SI Grant.

Brief Summary of AML Program:

1. March 1, 2013: NDEP AML Program creation and implementation; program development continues today.
2. Goals and Objectives: The goal was to develop a defensible, standardized approach for identifying AML sites on public and private lands, so that the universe of sites in Nevada could be understood and addressed, if necessary. The main objectives included identification, assessment, ranking and prioritization of the environmental hazards at AML sites in the State, and proactive mitigation of those hazards where warranted based on several factors. The overarching focus was on current and potential human health and ecological risks, particularly degradation of Waters of the State.
3. Methods: The methodology for site assessment has evolved into a multi-step process that includes initial file research (IFRs), initial site reconnaissance (ISRs), and as needed, secondary file research (SFRs), and secondary site reconnaissance (SSRs). A site prioritization schema was created to score the environmental hazards and rank the AML sites based on their relative scores. Ranking the sites has produced a ranked AML Site List which has been shared with our Federal partners, USFS, BLM, Army Corps and the EPA. Several of the sites are already undergoing remedial action, and two sites had remedial actions completed in 2016. One site is planned for remedial design and remedial action in 2017.
4. Funding Challenges: In order to achieve stated goals and objectives, we identified to the extent possible, the resources required, and the possible funding mechanisms; and we identified potential sources to address the resource requirements. To date we have utilized existing EPA grants, and we know it will take much more than the current grant funding levels to fully understand and assess the universe of AML environmental hazards in Nevada.

EPA Grant Support Summary:

1. AML Program management and staff salaries are supported by the SCCA Grant; this Grant also covers management of the Anaconda Mine Site.
2. The 128a Grant is partially used to assist in development of AML database peripherals that will

be linked to the US Army Corps Restoration of Abandoned Mine Sites (RAMS) funded NDEP AML spatial geodatabase. This database is expected to be complete in draft form later this month. The 128a Grant support in FY17 included purchase of work stations for AML Program Manager and staff, some field equipment, and software licenses. The 128a Grant is also being used to fund contractor support for creation and finalization of an EPA-approved NDEP AML QAPrP. The QAPrP is expected to be finalized and approved in the spring of 2017.

3. The PA/SI Grant is primarily used to complete AML site assessments and investigations at a screening level, and as warranted, further assessments and investigations at some sites.
 - a. In FY13 and FY14 the PA/SI Grant funding levels remained at \$25K, primarily in support of AML Program salaries. The last quarter of FY13 and all of FY14, the AML Program was centered around beginning to understand the Program needs; no site assessments were conducted, although we did get out to many AML sites to begin understanding them better.
 - b. In FY15, at our request and EPA agreement, funding levels were increased to \$75K. Of the \$75K, \$44K were expended to a contractor to complete the first round of AML Site assessments and investigations. The contractor completed 39 Initial Site Screening Reports, and we submitted the final report summarizing all the work. We worked closely with our EPA Grants Officer to create a useful, standardized tool for this work, the Site Screening Assessment (SSA) Form. The AML SSA Form was patterned after other EPA accepted State site screening assessment forms, but was tailored for Nevada. The contractor completed 39 Initial Site Screening Reports; 28 of those were initial assessments from the desk only, and another 11 included both desk and field activities. We submitted a final report summarizing all the work, including additional maps focused on sensitive species and drinking water. The investigation cost per site averaged \$1,128/SSA Form Report.
 - c. In FY16, at our request and EPA agreement, funding levels were increased to \$100K. \$60K was expended for two contractors to conduct site investigations, and the remaining \$40K was used to support NDEP AML staff field work and salaries. The two AML contractors completed investigations on a total of 31 AML sites. We recognized a need in FY16 for increased scrutiny on AML site investigations, so the per site expenses were considerably higher than in FY15; the investigations averaged \$1,935/SSA Form Report.
 - d. In FY17, again at our request and EPA agreement, funding levels were increased to \$125K. Contractor costs are estimated to be approximately \$88,446, leaving \$36,554 for internal resources. We are still early in the investigation process utilizing two contractors again; efforts are even more rigorous in FY17 than they were in FY16, but we have achieved more efficiency in site investigation work so we anticipate no great increases in average site assessment costs.
 - e. For FY18 we are requesting increased PA/SI Grant support to \$250K, to continue site assessment work and perform those assessments at even higher quality. As we better understand the complexities of site ownership of orphan AML sites in Nevada we recognize

that greater attention is required on understanding property ownership, boundaries, and potential RP existence and liability.

Summary of 2016 AML Program site assessment accomplishments utilizing the EPA PA/SI Grant:

1. Produced site maps locating each of the AML sites with screening work conducted in 2015-16 by the two different AML contractors.
2. Produced 31 SSA Forms for each of the 31 AML sites assessed in 2015-16. The work included completing 43 assessments, including: 30 initial file research assessments (IFR), and 13 initial site reconnaissance investigations (ISR) {12 sites had both an IFR and an ISR performed}.
3. Produced 31 additional maps for each of the 31 sites showing drinking water wells and endangered species information within a 4-mile radius of each of the sites.
4. Produced a master spreadsheet containing the species and drinking water information for all 31 sites investigated by the AML contractors.

AML Internship Accomplishments and Outlook:

In addition to the contractor SSAs that will be completed and reported for FY17, we also completed 8 IFRs and ISRs utilizing the two interns and AML staff in summer 2016. We will produce the essential forms and maps for each of these 8 sites. The interns performed very well under high pressure and their work was personally overseen by the AML Program Manager regularly and at the conclusion of the internship. The AML internship program is quite beneficial to the AML Program and we plan on continuing that relationship with engineering and hard science undergraduate and graduate students.

Summary of 2017 AML Program site assessment goals utilizing the EPA PA/SI Grant:

Currently we have tasked the two AML contractors with completing a total of 29 individual SSA Reports on 29 individual AML sites; the actual number of assessments totals 46: 17 IFRs, 13 SFRs, 7 ISRs, and 9 SSRs. These numbers may change some depending on the level of effort required to achieve the desired information and understanding. We are discussing the current report format with our EPA Project Officer, as we anticipate necessary changes to the report format due to the database implementation needs and function.

Nevada AML Environmental Sites Hazard Ranking Progress:

Of the 190 sites on the NDEP AML List, the following breakdown helps to understand the progress made since program creation in 2013 (some remedial actions occurred at sites prior to program creation):

1. Sites with completed remedial actions, requiring no further action, long-term monitoring or periodic condition monitoring: 18
2. Sites with assessments and investigations complete or the risks are understood sufficiently to determine that remedial actions are likely needed: 10

3. Sites with assessments and investigations complete and no action is required, or only periodic condition monitoring is needed: 15
4. Sites with some assessment and investigation work done, but more is investigative work is required before being able to determine remedial action needs: 79
5. Sites with little or no assessment or investigation work initiated, and/or risks are unknown: 66
6. Of the remainder, 12 are sites that may fall under BMRR or BLM purview and may produce operation plans, but if not they will require some investigation work or remedial action work by the AML Program.

The 190 sites on the List are currently scored for risk and are ranked accordingly:

Very high: 2;
High: 14;
Medium: 67;
Low: 94; and
Very low: 13

The NDEP appreciates the grant opportunities from the EPA and looks forward to future grant funding for further AML site assessment work.

Thank you again for your support,



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